

What is claimed is:

1. A machine tool comprising:

a support table provided on an upper surface of a
5 bed to support a work;

a Z-axis saddle for reciprocation toward in a Z-axis
direction (longitudinally);

a machining unit mounted on the Z-axis saddle and
provided with a machining head for machining of the work;

10 a compartment cover arranged on the bed to
compartment a region, in which a work supported on the
support table is machined, and a machine region, in which
the machining unit is movably arranged;

an opening window provided on the compartment cover
15 to permit the machining head to go in and out therethrough;
and

a seal member in the form of a closed ring to be
mounted on an inner peripheral edge of the opening window
of the compartment cover;

20 wherein an entire periphery of an outer peripheral
surface of the machining head is brought into sliding
contact with an inner peripheral edge of the seal member
in a state, in which the machining head is moved into
the machining region from a tool exchange position within
25 the machine region.

2. A machine tool according to claim 1, wherein the machining unit is configured to permit exchange of plural kinds of machining heads having different body sizes, an opening is formed in the compartment cover to enable a machining head of a maximum size to go in and out, and the opening selectively and exchangeably mounts thereto plural kinds of seal frames comprising a mount frame formed with the opening window conformed to a body size of each of the machining heads, and the seal member mounted to an inner peripheral edge of the opening window of the mount frame and put into contact with an outer peripheral surface of a body of the machining head.

3. A machine tool according to claim 1, wherein the machining unit is configured to permit exchange of plural kinds of machining heads having different body sizes, the seal member conformed to a maximum body size of the machining heads is mounted to the opening window of the mount frame, plural kinds of head covers formed into complementary shapes so as to assume the same shape as the external shape of a body of the machining head having the maximum body size upon mounting on those machining heads having sizes, which are equal to or less in size than the maximum body size, are selectively and

exchangably mounted on the machining unit, and a seal member is mounted on an inner edge of the head cover to come into contact with the outer peripheral surface of the machining head.

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4. A machine tool according to claim 1, wherein the machining head is mounted to be able to reciprocate in a X-axis direction (laterally) or a Y-axis direction (vertically), a shield cover is mounted on the machining
10 unit to shield the machining head and to allow reciprocatory movements of the machining head in the X-axis direction (laterally) or the Y-axis direction (vertically), and an outer peripheral surface of an annular frame constituting the shield cover is brought
15 into sliding contact with an inner peripheral surface of the seal member on a side of the opening window in a state, in which the machining head is moved into the machining region from a tool exchange position within the machine region.

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5. A machine tool according to claim 1, wherein the compartment cover comprises an arch-shaped support frame provided upright in a predetermined position on the bed, and an extensible cover mounted inside the support frame
25 to be able to reciprocate together with the seal member

in a X-axis direction (laterally) or a Y-axis direction (vertically), and wherein interlocking unit is provided between the machining unit and the extensible cover to move the extensible cover and the seal member in the X-axis direction or the Y-axis direction so that the machining head corresponds to the seal member as viewed in a Z-axis direction when the machining unit is moved in the X-axis direction or the Y-axis direction.

6. A machine tool according to claim 4, wherein the compartment cover comprises a roll cover or a telescopic cover.

7. A machine tool according to claim 5, wherein the compartment cover comprises a roll cover or a telescopic cover.

8. A machine tool according to claim 1, wherein guide rails are mounted immediately on the upper surface of the bed and the Z-axis saddle of the machining unit is mounted on the guide rails.

9. A machine tool according to claim 2, wherein guide rails are mounted immediately on the upper surface of the bed and the Z-axis saddle of the machining unit

is mounted on the guide rails.

10. A machine tool according to claim 3, wherein
guide rails are mounted immediately on the upper surface
5 of the bed and the Z-axis saddle of the machining unit
is mounted on the guide rails.

11. A machine tool according to claim 1, wherein
the seal member comprises a scraper having a seal lip
10 and has a tip end thereof directed toward the machining
region.

12. A machine tool according to claim 8, wherein
the seal member comprises a scraper having a seal lip
15 and has a tip end thereof directed toward the machining
region.

13. A machine tool according to claim 9, wherein
the seal member comprises a scraper having a seal lip
20 and has a tip end thereof directed toward the machining
region.

14. A machine tool according to claim 1, wherein
the machining head comprises a multi spindle head provided
25 with a plurality of tools.

15. A machine tool according to claim 11, wherein the machining head comprises a multi spindle head provided with a plurality of tools.

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